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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/559,691	04/27/2000	Young-Hwan Lee	678-474 (P9192)	3050

7590 12/17/2003

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EXAMINER

BAYARD, EMMANUEL

ART UNIT	PAPER NUMBER
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2631

DATE MAILED: 12/17/2003

6

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/559,691

Applicant(s)

LEE ET AL.

Examiner

Emmanuel Bayard

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 9/15/03.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

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DETAILED ACTION

1. This is in response to amendment filed on 9/15/03 in which claims 1-5 are pending. The applicant's arguments have been fully considered but they are moot based on the new ground of rejection.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shida et al

U.S. Patent No 5,968,201 in view of Graham et al U.S. Patent No 5,349,608.

As per claims 1 and 5 Shida et al teaches a method for normalizing metric values in a decoder uses a plurality of metric values of a next state said each metric value having at least a survival path metric and a competition path metric value, the method comprising the steps of: calculating path metric (see figs.4, 9 elements s105, s306 and col.6, lines 35-36 and col.8, lines 54-55) is considered as the claimed (detecting the survival path metric values out of the metric values); detecting a minimum survival path metric value out of the detected survival path metric values (see col.6, lines 36-37 and col.8, lines 55-56); determining whether the detected minimum survival path metric value exceeds a threshold value (see col.2, lines 15-20 and col.6, lines 50-53).

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However Shida does not subtracting, when the detected minimum survival path metric value exceeds a threshold value, the minimum survival path metric value from the metric values to output normalized metric values.

Graham et al teaches subtracting, when the detected minimum survival path metric value exceeds a threshold value, the minimum survival path metric value from the metric values to output normalized metric values (see col.2, lines 10-15 and col.4, lines 1-12).

It would have been obvious to one of ordinary skill in the art to implement the teaching of Graham into Shida as to accomplish the correct renormalization by monitoring all 64 metric values possible as taught by Graham (see col.2, lines 3-6 and col.4, lines 1-15).

As per claims 2-4, Shida et al teaches a device for normalizing metric values in a decoder uses a plurality of metric values of a next state said each metric value having at least a survival path metric and a competition path metric value, the device comprising the steps of: decision (see abstract and col.2, lines 9-15 and col.6, lines 43-57) is considered as the claimed (comparator for detecting the survival path metric values out of the metric values), detecting a minimum survival path metric value out of the detected survival path metric values, and outputting determining the minimum survival path metric value when the detected minimum survival path metric value exceeds a threshold value (see col.6, lines 43-67 and col.8, lines 60-67 and col.9, lines 1-7).

However Shida does not teach subtracters for subtracting the minimum survival path metric value from the metric values to output normalized metric values.

Graham teaches subtracting the minimum survival path metric value from the metric values to output normalized metric values (see col.2, lines 10-15 and col.4, lines 1-12).

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It would have been obvious to one of ordinary skill in the art to implement the teaching of Graham into Shida as to accomplish the correct renormalization by monitoring all 64 metric values possible as taught by Graham (see col.2, lines 3-6 and col.4, lines 1-15).

Conclusion

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Kim et al U.S. Patent No 6,483,881 B1 teaches a method of reducing complexity.

Wang et al U.S. Patent No 5,548,684 teaches an artificial neural network viterbi decoding.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Emmanuel Bayard whose telephone number is (703) 308-9573. The examiner can normally be reached on Monday-Thursday from 8:00 AM - 5:30 PM. The examiner can also be reached on alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mohammad H. Ghayour, can be reached on (703) 306-3034. The fax phone number for this Group is (703) 872-9314.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 305-3800.



Emmanuel Bayard

Primary Examiner

December 12, 2003